

Title (en)
SYSTEMS AND METHODS PROVIDING LOCATION FEEDBACK FOR ADDITIVE MANUFACTURING

Title (de)
SYSTEME UND VERFAHREN MIT BEREITSTELLUNG VON POSITIONSFEEDBACK ZUR GENERATIVEN FERTIGUNG

Title (fr)
SYSTÈMES ET PROCÉDÉS FOURNISSANT UN RETOUR D'INFORMATIONS CONCERNANT L'EMPLACEMENT POUR UNE FABRICATION ADDITIVE

Publication
EP 3501716 A1 20190626 (EN)

Application
EP 18214205 A 20181219

Priority

- US 201762607598 P 20171219
- EP 18163151 A 20180321
- US 201816199380 A 20181126

Abstract (en)
A system and method to correct for height error during a robotic additive manufacturing process. One or both of an output current, output voltage, output power, output circuit impedance and a wire feed speed are sampled during an additive manufacturing process when creating a current layer. A plurality of instantaneous contact tip-to-work distances (CTWD's) are determined based on at least one or both of the output current, output voltage, output power, output circuit impedance and the wire feed speed. An average CTWD is determined based on the plurality of instantaneous CTWD's. A correction factor is generated, based on at least the average CTWD, which is used to compensate for any error in height of the current layer.

IPC 8 full level
B23K 9/04 (2006.01); **B23K 9/095** (2006.01); **B23K 9/10** (2006.01); **B23K 9/12** (2006.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 50/00** (2015.01)

CPC (source: EP)
B23K 9/044 (2013.01); **B23K 9/0953** (2013.01); **B23K 9/0956** (2013.01); **B23K 9/1006** (2013.01); **B23K 9/1093** (2013.01); **B23K 9/125** (2013.01); **B23K 9/126** (2013.01); **B33Y 10/00** (2014.12); **B33Y 30/00** (2014.12); **B33Y 50/00** (2014.12)

Citation (applicant)

- US 201762607598 P 20171219
- US 6772932 B1 20040810 - HALSTEAD SCOTT P [US]

Citation (search report)

- [XY] US 2015108096 A1 20150423 - DANIEL JOSEPH A [US]
- [XY] US 2017252847 A1 20170907 - DANIEL JOSEPH A [US], et al
- [Y] US 2015209908 A1 20150730 - PETERS STEVEN R [US], et al

Cited by
CN110865663A; CN114769798A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3501716 A1 20190626

DOCDB simple family (application)
EP 18214205 A 20181219